“La scienza non è democratica”: un equivoco da superare

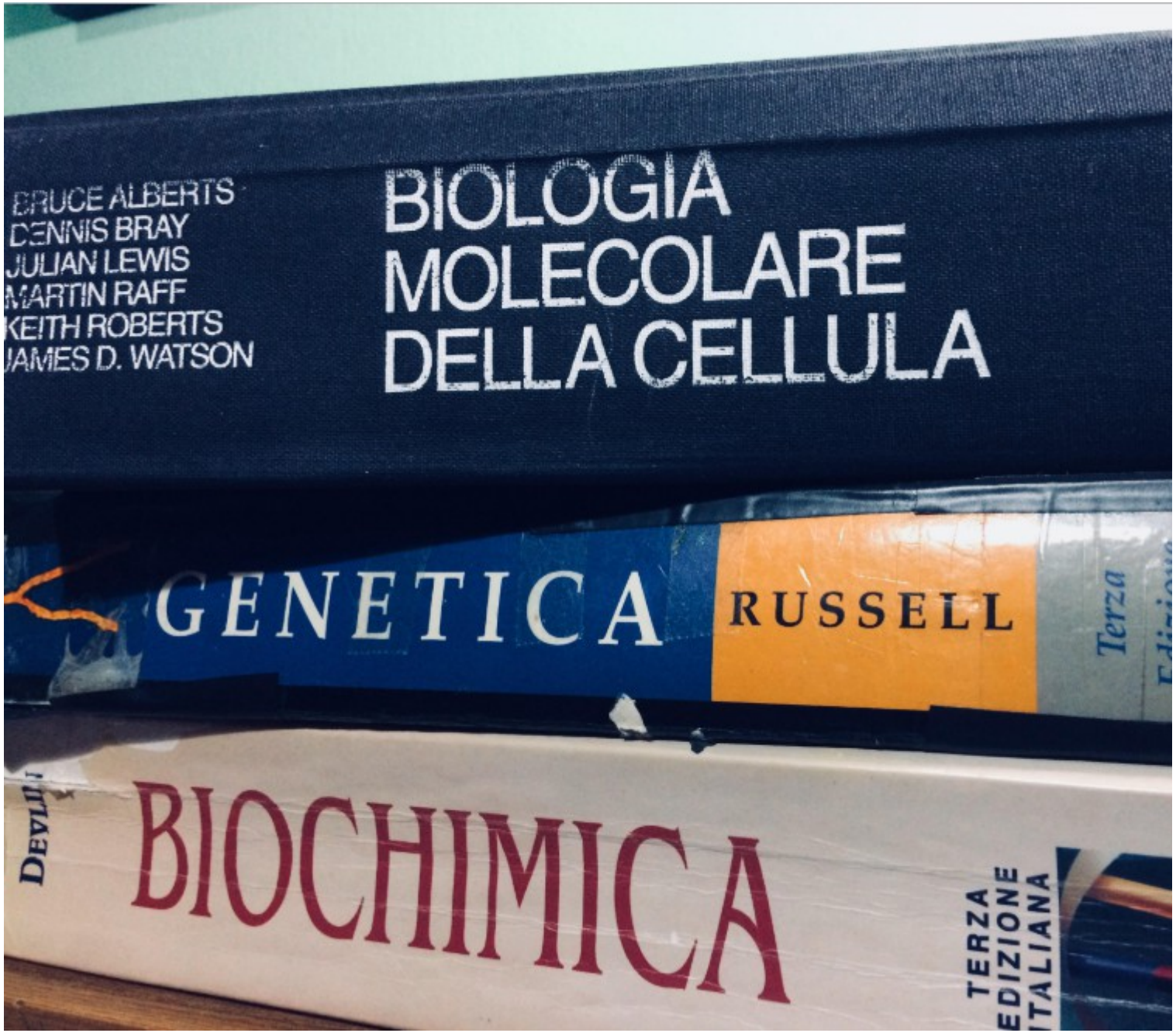
«La scienza non è democratica perché chi non è esperto non può intervenire in una discussione su un tema specialistico. Ha diritto di parola solo chi ha studiato»

«la scienza non è democratica perché la validità di ipotesi e teorie non si mette ai voti, ma deve essere dimostrata con prove»

Democrazia

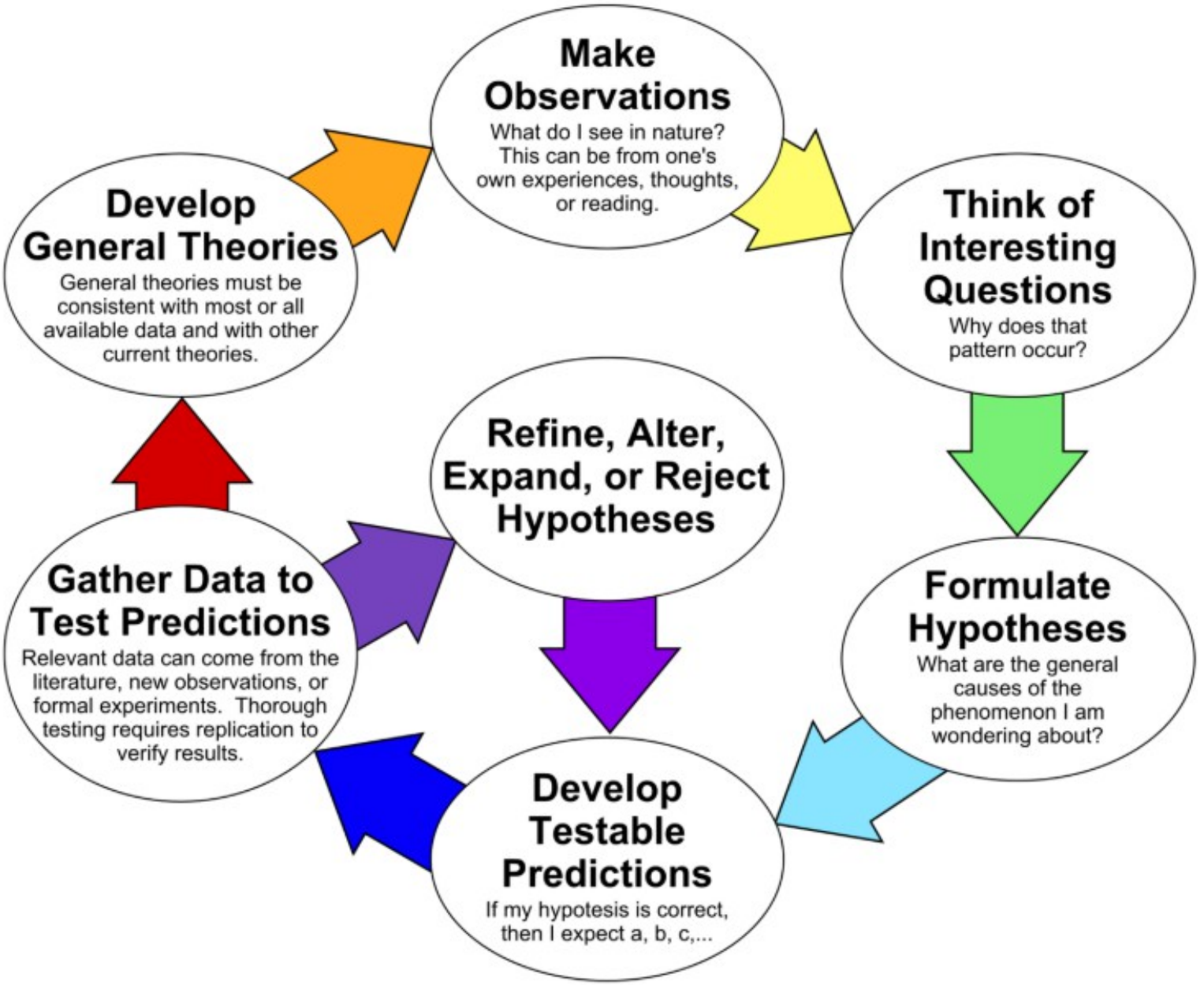
«Un metodo per prendere decisioni collettive. Si chiama gruppo democratico quel gruppo in cui valgono almeno queste due regole per prendere decisioni collettive. Primo: tutti partecipano alla decisione direttamente o indirettamente. Secondo: la decisione viene presa dopo una libera discussione a maggioranza»

Norberto Bobbio


BRUCE ALBERTS
DENNIS BRAY
JULIAN LEWIS
MARTIN RAFF
KEITH ROBERTS
JAMES D. WATSON
BIOLOGIA MOLECOLARE DELLA CELLULA
GENETICA
RUSSELL
Terza
BIOCHIMICA
TERZA EDIZIONE ITALIANA

I think

Then between A & B. Divergence of selection. C & B. The first speciation, B & D


Make Observations
What do I see in nature? This can be from one's own experiences, thoughts, or reading.
Think of Interesting Questions
Why does that pattern occur?
Formulate Hypotheses
What are the general causes of the phenomenon I am wondering about?
Develop Testable Predictions
If my hypotesis is correct, then I expect a, b, c,...
Gather Data to Test Predictions
Relevant data can come from the literature, new observations, or formal experiments. Thorough testing requires replication to verify results.
Refine, Alter, Expand, or Reject Hypotheses
Develop General Theories
General theories must be consistent with most or all available data and with other current theories.


MARCH FOR SCIENCE
SCIENCE SPEAKING TRUTH TO POWER
SCIENCE BELONGS TO EVERYONE
PROTECTING OUR COMMUNITIES
WE HAVE THE SOLUTION
There will never be a better time to save the planet
MARCH FOR SCIENCE


VACCINE LIES & CORRUPTION
VACCINES KILL


AIFA
Agenzia Italiana del Farmaco


ISTITVTO SVPERIORE DI SANITÀ


ECHA
EUROPEAN CHEMICALS AGENCY


efsa
European Food Safety Authority


World Health
Organization


EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

The Guardian

UK news

After BSE: a crisis for science

BSE is the latest crisis to dent public faith in those who should know better

Special report: the BSE crisis
After BSE: future safety issues
After BSE: other scare stories

James Meek, *science correspondent*

Sat 28 Oct 2000 01.02 BST

UK panel formed to rebuild trust in government science advice

[LONDON] The British government has formed a group of experts to provide it with advice on communicating risk, in a bid to restore public confidence in the ability of government to handle issues such as food safety. Public faith has been shattered in particular by the crisis over bovine spongiform encephalopathy (BSE).

The 28-member group includes leading academics, journalists, heads of non-governmental organizations, and government officials. It includes Sir Robert May, the government's chief scientific adviser, Liam Donaldson, the chief medical officer, and Jon Snow, a prominent UK TV news presenter. Its deliberations will feed into a government seminar on risk management to be held in the coming weeks.

The group's creation coincides with the publication of a report from the UK Consumers' Association, which concludes that a science-based approach cannot alone be relied upon to reach socially acceptable decisions on issues involving the communication of risk. The report, *Confronting Risk — A New Approach to Food Safety*, says: "Whilst science has an important role to play, it can only take us so far. It is important to recognize that scientific assessment itself is not a value or a judgement-free process. And even if it were, it is often surrounded by uncertainty."

The report concludes that the government needs to be more open and transparent in the way it manages risk, acknowledging scientific uncertainty, and involving as many relevant people — particularly from the public — as possible in the decision-making process.

It also recommends that meetings of scientific advisory committees should be held in public wherever possible, and that "minority scientific views" should be considered when picking experts to sit on these committees. The government is currently reviewing the structure and workings of its scientific advisory committees related to biotechnology.

A survey conducted last month by the polls company MORI revealed alarmingly low levels of public trust in government officials, including government scientists. Almost two-thirds of respondents "trusted most" independent university scientists and pressure groups — such as Greenpeace — to advise on the risks of pollution. Only 23 per cent trusted government scientists, and just 6 per cent ministers. Responses on the risks of BSE showed a similar pattern.

When asked to rate the government's handling of 13 issues, respondents placed genetically modified foods as the area handled least well. Modified foods topped the chart of issues where those polled felt that more legislation was required.

Sixteen per cent of respondents felt that they were well informed of the health risks of genetically modified foods, a similar proportion to those who felt informed about raw, unpasteurized milk. In contrast, 90 per cent felt well informed about the risks of smoking.

Ehsan Masood

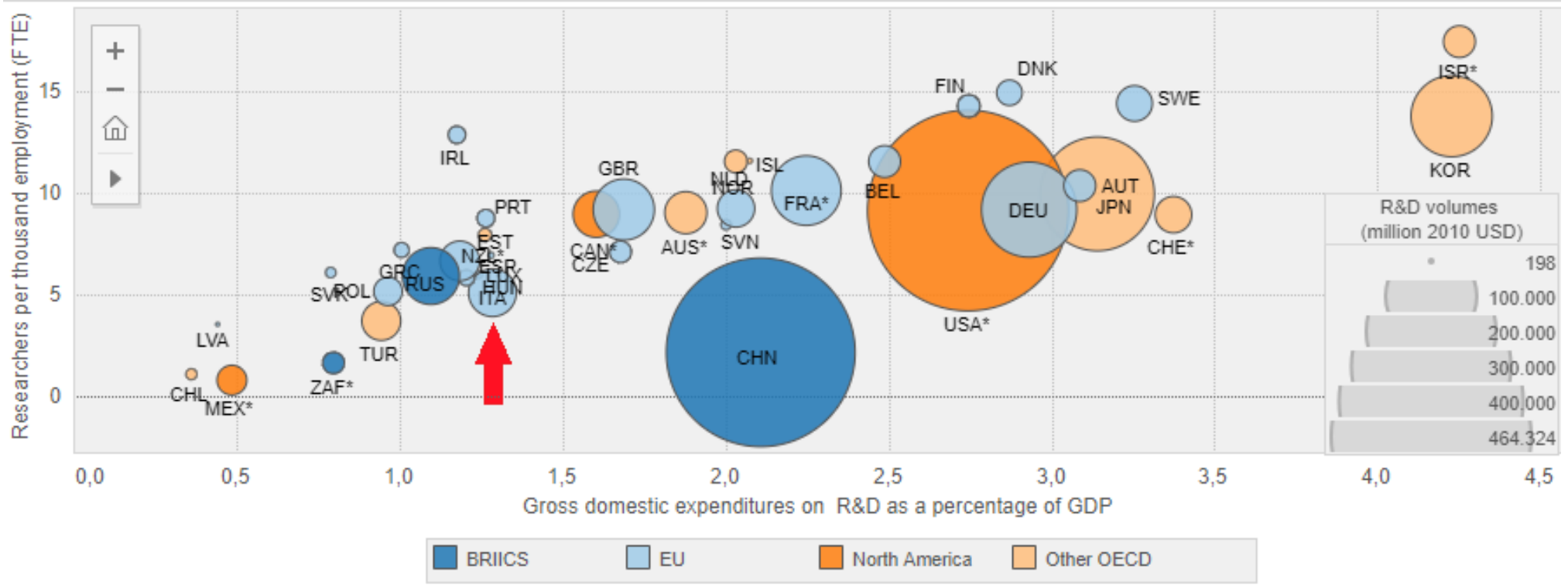
Stem cell research, xenotransplantation and somatic and germ line gene therapy are examples of emerging technologies that, if successful, will forever change the way we live. But how well does the public understand the benefits and risks of these technologies, and whose responsibility is it to communicate them? Here, Erik Millstone and Patrick van Zwanenberg of the University of Sussex, UK, discuss whether science is suffering because of a lack of transparency in presenting scientific information to its main consumer group—the general public.

A crisis of trust: for science, scientists or for institutions?

A loss of trust

What the consumers were indicating was that they were dissatisfied, and had diminished trust in key institutions, particularly the MAFF, official committees and the meat industry. But that should not be confused with, or misrepresented as, a loss of trust in science. There is no evidence that British and European consumers had, prior to March 1996, expected complete certainty from the science of BSE, nor that they demanded or expected zero risk[2]. But they had expected straightforward and frank accounts of science and risk, rather than representations that were calculated to sedate them.

Human and financial resources devoted to R&D, 2016



Source: OECD, Main Science and Technology Indicators Database, http://oe.cd/msti, July 2018.

Norme “mertoniane”

Comunitarismo: le scoperte sono patrimonio della comunità scientifica, perché sono frutto di un lavoro collettivo.

Universalismo: affermazioni, tesi e risultati non vengono giudicati in base alle caratteristiche personali del loro autore. Il loro valore è quindi indipendente da nazionalità, religione e classe sociale.

Disinteresse: l'interesse primario dello scienziato è l'avanzamento della conoscenza.

Scetticismo organizzato: lo scienziato sottopone a critica i risultati altrui e i propri.

Immagini della scienza

«....Una somma di pensieri, di riflessioni, di affermazioni su ciò che la scienza è o dovrebbe essere... un discorso (più o meno articolato) sulla natura, gli scopi, le funzioni, i compiti della scienza.. una riflessione sul significato della scienza e della tecnica per la vita del singolo e della collettività.. una valutazione della loro incidenza nella storia e nella vita delle società»